

### REMARKS

Claims 1, 2 and 4-17 are currently pending in the subject application and are presently under consideration. Since the amendments place the application in condition for allowance, remove issues in the event of an appeal, and/or do not require further searching, entry is respectfully requested. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

#### **I. The Amendments**

Claims 9 and 13 have been amended to facilitate rejoinder (amended to dependent form to inherently include all of the features of claim 1). Claims 18-23 have been cancelled without prejudice in view of the Restriction Requirement.

#### **II. The Novelty Rejection**

Claims 1, 2, and 4-8 stand rejected under 35 U.S.C. §102(b) over Bocian et al (US Patent 6,381,169). Bocian et al relates to a high density non-volatile memory device and use of such in computer systems. The Examiner notes Figure 12 in particular, where it is alleged that the voltammeter of Bocian et al corresponds to the controller of claim 1.

To establish anticipation, each and every claim feature must be disclosed in a single cited art document. Claim 1 requires a control component that applies an external stimulus to the memory cell to affect at least one of an electrical and optical property associated with the memory cell, the control component comprising a comparator that compares a value of the at least one of an electrical and optical property with a threshold value, to determine a program state of the memory cell. Bocian et al fails to disclose a control component that applies an external stimulus to the memory cell to affect at least one of an electrical and optical property associated with the memory cell, the control component comprising a comparator that compares a value of the at least one of an electrical and optical property with a threshold value, to determine a program state of the memory cell.

Specifically, Bocian et al fails to disclose a comparator that compares a value of the at least one of an electrical and optical property with a threshold value, to thereby determine a program state of the memory cell. The voltammeter of Bocian et al does NOT compare a value of the at least one of an electrical and optical property with a threshold value to determine the

program state of the memory cell. At Column 8, line 65, Bocian et al defines its voltammeter as a device capable of measuring current produced by an electrochemical cell as a result of the application of a voltage. Since Bocian et al does not disclose all of the claimed features, Bocian et al cannot anticipate claims 1, 2, and 4-8.

Furthermore, the system of claim 1 requires a memory cell that can accept and maintain more than two programmable states, (in contrast to a conventional memory device *that is limited to two states* such as off or on). Accordingly, each memory cell of the subject innovation can *employ varying degrees of conductivity to identify additional states*. For example, the memory cells can have a very highly conductive state (very low impedance state), a highly conductive state (low impedance state), a conductive state (medium level impedance state), and a non-conductive state (high impedance state), thereby enabling the storage of multiple bits of information in a single memory cell, such as 2 or more bits of information or 4 or more bits of information (*e.g.*, 4 states providing 2 bits of information, 8 states providing 3 bits of information and the like.) Such aspects of the claimed invention are not disclosed by Bocian et al.

Rather, Bocian et al is directed to a *bistable* electrical device that employs bistable qualities - a phenomenon in which an object *exhibits two states* of different conductivity at the same applied voltage. Column 20, line 50 of Bocian et al merely mentions the possibility of multi-bit storage systems. However, Bocian et al fails to describe such systems (one reason being that the voltammeter of Bocian et al is NOT equivalent to the comparator of claim 1). Since Bocian et al does not disclose all of the claimed features, Bocian et al cannot anticipate claims 1, 2, and 4-8 for this additional reason.

In view of the two significant differences described above, it is respectfully submitted that Bocian et al does not anticipate or render obvious the subject claims, and this rejection should be withdrawn.

### **III. The Obviousness Rejection**

Claim 7 stands rejected under 35 U.S.C. §103 Bocian et al in view of Inomata et al. (US Patent 6,069,820). Inomata et al relates to a spin dependent conduction device. However, Inomata et al fails to make up for the deficiencies of Bocian et al described above. Accordingly, withdrawal of this rejection is respectfully requested.

**IV. Rejoinder**

During prosecution, the claims were subjected to the following restriction requirement: Group I (system claims 1, 2, and 4-8), Group II (method claims 9-12), Group III (method claims 13-17), Group IV (device claims 18-21), and Group V (system claims 22-23). Group I (system claims 1, 2, and 4-8) was elected.

MPEP 821.04 specifies that, where product and process claims are presented in the same application, and if product claims are elected in a Restriction Requirement, after a product claim is found allowable, withdrawn process claims which depend from or include all the limitations of the allowable product claim will be rejoined.

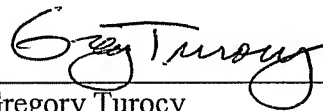
Method claims 9 and 13 have been amended so that they include all of the limitations of system claim 1. Upon allowance of claim 1, per MPEP 821.04, rejoinder of the method claims is respectfully requested.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [SPSNP1027US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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